



**2006 International Residential Code
For One- and Two-Family Dwellings**

Building Code Amendments

Ordinance No. 3744

Adopted July 10, 2007

Effective September 1, 2007

**PLANNING & DEVELOPMENT
SERVICES DEPARTMENT**

AN ORDINANCE OF THE COUNCIL OF THE CITY OF SCOTTSDALE, MARICOPA COUNTY, ARIZONA, AMENDING CHAPTER 31, ARTICLE III OF THE SCOTTSDALE REVISED CODE, RELATING TO THE BUILDING CODE, ADOPTING THE 2006 EDITION OF THE "INTERNATIONAL RESIDENTIAL CODE FOR ONE- AND TWO-FAMILY DWELLINGS INCLUDING APPENDICES", AND CITY OF SCOTTSDALE AMENDMENTS TO THE 2006 INTERNATIONAL RESIDENTIAL CODE FOR ONE- AND TWO-FAMILY DWELLINGS.

BE IT ORDAINED by the City Council of the City of Scottsdale, Arizona, as follows:

Section 1. Section 31-31(2) of the Scottsdale Revised Code is hereby repealed and replaced by a new Section 31-31(2), which shall read as follows:

Sec. 31-31. Adoption.

The following documents are adopted by reference and shall be the building code of the city. Three (3) copies of each shall at all times remain in the office of the city clerk and be open to inspection.

2) The International Residential Code for One-and Two-Family Dwellings, 2006 Edition, as published by the International Code Council, Inc. and the City of Scottsdale Amendments to the 2006 International Residential Code for One- and Two-Family dwellings declared public records by Resolution 7301 of the City of Scottsdale, are hereby referred to, adopted and made a part hereof as if fully set forth in this ordinance.

Section 2. Section 31-32 of the Scottsdale Revised Code is hereby repealed and replaced by a new Section 31-32, which shall read as specified in that certain document entitled "City of Scottsdale Amendments to the 2006 International Residential Code for One- and Two-Family dwellings, 2006 Edition," and hereby referred to, adopted and made a part hereof as if fully set out in this Ordinance.

Section 3. Article VIII, Public Accommodations for Handicapped, of Chapter 31 of the Scottsdale Revised Code, including sections 31-201 through 31-236, is hereby repealed.

Section 4. Any person found guilty of violating this Ordinance shall, in addition to any other applicable penalty, is subject to the following:

105.6 Suspension or revocation. The building official is authorized to suspend or revoke a permit issued under the provisions of this code wherever the permit is issued in error or on the basis of incorrect, inaccurate or incomplete information, or in violation of any ordinance or regulation or any of the provisions of this code.

110.4 Revocation. The building official is authorized to, in writing, suspend or revoke a certificate of occupancy or completion issued under the provisions of this code wherever the certificate is issued in error, or on the basis of incorrect information supplied, or where it is determined that the building or structure or portion thereof is in violation of any ordinance or regulation or any of the provisions of this code.

113.4 Violation penalties. Any person who violates a provision of this code or fails to comply with any of the requirements thereof or who erects, constructs, alters or repairs a building or structure in violation of the approved construction documents or directive of the building official, or of a permit or certificate issued under the provisions of this code, shall be subject to penalties as prescribed by law.

Section 5. The repeal of any provision of the Scottsdale Revised Code effectuated by this Ordinance does not affect the rights and duties that matured or penalties that were incurred and proceedings that were begun before the effective date of this Ordinance.

Section 6. If any section, subsection, sentence, clause, phrase or portion of this ordinance or any part of these amendments to the Building Codes adopted herein by reference is for any reason held

to be invalid or unconstitutional by the decision of any court of competent jurisdictions, such decision shall not affect the validity of the remaining portions thereof. If there is any conflict or inconsistency between the provisions of this ordinance, the more restrictive provisions apply.

Section 7. The effective date of this ordinance shall be September 1, 2007.

PASSED AND ADOPTED BY THE Council of the City of Scottsdale, Maricopa County, Arizona this 10th day of July, 2007.

ATTEST:

CITY OF SCOTTSDALE
A municipal corporation

Carolyn Jagger
City Clerk

Mary Manross
Mayor

APPROVED AS TO FORM:

Deborah Robberson
City Attorney

The International Residential Code for One- and Two- Family Dwellings, 2006 Edition, adopted by section 31-31 is amended in the following respects:

Delete Chapter 1, Administration, and substitute the following:

Refer to Chapter one of the amended International Building Code, 2006 Edition, for administrative provisions.

Appendices. Provisions in the appendices shall not apply unless specifically referenced in the adopting ordinance. The following appendices are adopted:

APPENDIX A SIZING AND CAPACITIES OF GAS PIPING
APPENDIX B SIZING OF VENTING SYSTEMS SERVING APPLIANCES EQUIPPED WITH DRAFT HOODS, CATEGORY I APPLIANCES, AND APPLIANCES LISTED FOR USE AND TYPE B VENTS
APPENDIX C EXIT TERMINALS OF MECHANICAL DRAFT AND DIRECT-VENT VENTING SYSTEMS
APPENDIX D RECOMMENDED PROCEDURE FOR SAFETY INSPECTION OF AN EXISTING APPLIANCE INSTALLATION
APPENDIX G SWIMMING POOLS, SPAS AND HOT TUBS
APPENDIX H PATIO COVERS
APPENDIX J EXISTING BUILDINGS AND STRUCTURES
APPENDIX K SOUND TRANSMISSION
APPENDIX O GRAY WATER RECYCLING SYSTEM

Amend Appendix O by deleting "Note" at the beginning of the chapter.

Section R201.4 is amended to read as follows:

R201.4 Terms not defined. Where terms are not defined through the methods authorized by this section, such terms shall have ordinarily accepted meanings such as the context implies. Webster's Third New International Dictionary of the English Language, Unabridged, shall be considered as providing ordinarily accepted meanings.

Section R301.1 is amended to read as follows:

R301.1.1 Alternative provisions. As an alternative to the requirements in Section R301.1 with prior approval of the building official the following standards are permitted subject to the limitations of this code and the limitations therein. Where engineered design is used in conjunction with these standards the design shall comply with the *International Building Code*.

1. American Forest and Paper Association (AF&PA)
Wood Frame Construction Manual (WFCM).
2. American Iron and Steel Institute (AISI), *Standard for Cold-Formed Steel Framing- Prescriptive Method for One- and Two-family Dwellings (COFS/PM).*

Complete Table R301.2(1) as follows:

The requirements of IRC Table R301.2(1) are as follows:

Ground snow load:	0
Wind speed :	90
Seismic design category :	C
Weathering :	negligible
Frost line depth :	Final Grade
Termite :	moderate to heavy
Decay :	none to slight
Winter design temp :	34 degrees

Delete all other headings

Revise Table R301.5 as follows:

TABLE R301.5
MINIMUM UNIFORMLY DISTRIBUTED LIVE LOADS

(In pounds per square foot)

USE	LIVE LOAD
Attics with storage ^{b,e}	40
Sleeping rooms	40

All other values to remain unchanged.

Revise Section R303.1 (Habitable rooms), Exception 2 to read as follows:

2. With the exception of living rooms, bedrooms, kitchens, breakfast and dining rooms, the glazed areas need not be installed in rooms where Exception 1 above is satisfied and artificial light is provided capable of producing an average illumination of 6 foot-candles (65 lux) over the area of the room at a height of 30 inches (762 mm) above the floor level.

Section R303.3 is amended to read as follows:

R303.3 Bathrooms. Bathrooms, water closet compartments and other similar rooms shall be provided with aggregate glazing area in windows of not less than 3 square feet (0.279 m²), ~~one-half of which must be operable.~~ A mechanical ventilation system shall be provided. The minimum ventilation rates shall be 50 cfm (23.6 L/s) for intermittent ventilation or 20 cfm (9.4 L/s) for continuous ventilation. Ventilation air from the space shall be exhausted directly to the outside.

Exception: The glazed areas shall not be required where artificial light ~~and a mechanical ventilation system are~~ is provided. ~~The minimum ventilation rates shall be 50 cfm (23.6 L/s) for intermittent ventilation or 20 cfm (9.4 L/s) for continuous ventilation. Ventilation air from the space shall be exhausted directly to the outside.~~

Section R303.8 is amended to read as follows:

R303.8 Equipment and systems. Interior spaces intended for human occupancy shall be provided with active or passive ~~space-heating~~ heating and cooling systems capable of maintaining ~~a minimum~~ indoor temperature of between 68°F (20°C) and 80°F at a point 3 feet (914 mm) above the floor on the design heating day.

Exception: Interior spaces where the primary purpose is not associated with human comfort. The installation of one or more portable space heaters shall not be used to achieve compliance with this section.

Section R309.1 is amended to read as follows:

R309.1 Opening protection. Openings from a private garage directly into a room used for sleeping purposes shall not be permitted. Other openings between the garage and residence shall be equipped with solid wood doors not less than 1³/₈ inch (35 mm) in thickness, solid or honeycomb core steel doors not less than 1³/₈ inches (35 mm) thick, or 20-minute fire-rated doors. Doors providing opening protection shall be maintained self-closing and self-latching.

Section R310.1 is amended by adding the following sentence:

Such openings shall open directly into a public street, public alley, yard or court. The access route to the emergency escape and rescue opening shall comply with the requirements of Section R310.

Section R311.4.3, Landings at doors, is amended by adding the following exception:

4. All exterior doors, other than the exit door required by Section R311.4.1 may swing over a landing with a drop of not more than 4 inches below the top of the threshold.

The width of each landing shall not be less than the door served. Every landing shall have a minimum dimension of 36 inches (914 mm) measured in the direction of travel.

Section R313.1 is amended by adding the following item:

4. Where the ceiling height of a room open to the hallway servicing bedrooms exceeds that of the opening to the hallway by 24 inches (610 mm) or more, smoke detectors shall be installed in the hallways and in the adjacent room.

Section R313.3 is amended by adding the following:

Section R131.3.1 Apartments, Condominiums and Conversions.

All apartments and condominiums constructed without a sprinkler system and all conversions made in buildings without a sprinkler system shall install smoke alarms in compliance with Section 907.2.10 of the most current adopted building code.

Exception: If construction is not being done or if construction does not include the removal of the ceiling membrane – exposing the building framing – the smoke alarms may be battery operated only, provided the battery is a long life lithium battery or equal.

All structures shall be in compliance on or before January 1, 2009.

Section R317.1 is amended to read as follows:

R317.1 Two-family dwellings. Dwelling units in non-sprinkled two-family dwellings shall be separated from each other by wall and/or floor assemblies having not less than 1-hour fire-resistive rating when tested in accordance with ASTM E 119. Fire-resistance rated floor-ceiling and wall assemblies shall extend to and be tight against the exterior wall, and wall assemblies shall extend to the underside of the roof sheathing.

Exception: A fire resistance rating of ½ hour shall be permitted in buildings equipped throughout with an automatic sprinkler system installed in accordance with ~~NEPA-13~~ the fire code, the separation between residences and between their attic areas shall be by not less than 1/2-inch (12.7 mm) gypsum board applied to each side.

R317.1.1 Supporting construction. When floor assemblies are required to be fire-resistance-rated by Section R317.1, the supporting construction of such assemblies shall have an equal or greater fire-resistive rating.

Add Section R325 as follows:

R325 Automatic Fire-extinguishing Systems. In all occupancies an automatic sprinkler system shall be installed in accordance with the city fire code:

Exceptions:

1. Gazebos and ramadas for residential and public use.
2. Independent restroom buildings that associated with golf courses, parks and similar uses.
3. Guardhouses with 120 square feet or less floor area for residential and commercial developments.
4. Detached carports for residential developments.
5. Barns and agricultural buildings for private, residential, non-commercial use, not exceeding 1500 square feet.
6. Detached storage sheds for private, residential, non-commercial use, not exceeding 1500 square feet.
7. Detached 1, 2 and 3 car garages not exceeding 1000 square feet (without habitable spaces) in existing R-3 developed parcels which contain existing non-sprinklered sub-division requirements (i.e. 700 foot hydrant spacing).
8. For fuel dispensing canopies see the Fire Code.

9. Open shade horse stalls of non-combustible construction for private, residential, non-commercial use, not exceeding 5,000 square feet and no storage of combustible products, vehicles or agricultural equipment.
10. Additions, alterations, or repairs of existing unsprinkled buildings or structures when the value of work is ten (10) percent or less of the value of an existing building of assembly use or twenty-five (25) percent or less of the value of an existing building or structure of other occupancies within a twelve month period.

Table R403.1 is revised to read as follows:

TABLE R403.1
MINIMUM WIDTH OF CONCRETE FOOTINGS (inches)^{1, 2, 3, 5}

Number of Floors Supported by the Foundation. ³	Thickness of Foundation Wall (inches - Nominal Dimension)		Width of Footing (W) (inches)		Thickness of Footing (inches)		Depth Below Undisturbed Soil (inches)	
	Stud Wall							
	Concrete	Unit Masonry	Stud Wall ¹	Masonry Wall	Stud Wall	Masonry Wall	Stud Wall	Masonry Wall
1	6	6	16	16	6	8	18	18
2	8	8	16	20	8	8	18	18

For SI: 1 inch = 25.4 mm, 1 pound per square foot = 0.0479 kN/m².

1. Interior stud bearing walls may be supported by isolated footings. The footing width and length shall be twice the width shown in this table and the footings shall be spaced not more than 6 feet (1,829mm) on center.
2. A minimum of two (2) #4 reinforcing bars (minimum grade 40) are required in the footing/stem concrete. If metal hold downs are used, one #4 horizontal reinforcing bar must be placed within the top 6" of the stem wall.
3. Foundations may support a roof in addition to the stipulated number of floors. Foundations supporting roofs only shall be as required for supporting only one floor.
4. Isolated columns carrying loads in excess of 750 lbs shall be supported on minimum 4 square feet of footing, with minimum width of 24 inches. Maximum bearing pressure from service loads shall not exceed 1500 psf unless recommended by the soils report.
5. A certified soils report from a registered design professional may be used in lieu of these requirements..

Revise Section R403.1.4 as follows:

R403.1.4 Minimum depth.

All ~~exterior~~ footings shall be placed at least ~~12 inches (305 mm)~~ 18 inches (457 mm) below the undisturbed ground surface. Where applicable, the depth of footings shall also conform to Sections R403.1.4.1 through R403.1.4.2.

Revise figure R403.1.7.1 as follows :

Replace figure R403.1.7.1 Foundation clearances from slopes with IBC figure 1805.3.1 foundation clearances from slopes.

Revise Top of Slope Note to read:

H/3 or 1.5 times footing width (whichever is greater) but need not exceed 40 ft. max.

Modify Section R502.11.4 Truss design drawings by adding the following:

R502.11.4.1 Deferred Submittals.

At the option of the registered design professional in responsible charge, truss design drawings may be submitted in compliance with Section 106.3.4.2 "Deferred Submittals".

Figure R602.3(2) FRAMING DETAILS, the note in the upper right corner is revised to read:

STAGGER JOISTS ~~24 INCHES~~ 48 INCHES (1219 mm) OR USE SPLICE PLATES – SEE SECTION R602.3.2

Table R602.3(1) FASTENER SCHEDULE FOR STRUCTURAL MEMBERS, under the column entitled "DESCRIPTION OF BUILDING ELEMENTS", change the tenth line to read:

Double top plates, minimum ~~24-inch~~ 48-inch (1219 mm) offset of end joints, face nail in lapped area

Modify Section 802.10.1 by adding:

R802.10.1.1 Deferred Submittals.

At the option of the registered design professional in responsible charge, truss design drawings may be submitted in compliance with Section 106.3.4.2 "Deferred Submittals".

Modify Section R806.1 by adding exception:

Exception: Enclosed attic and rafter spaces are not required to be ventilated where the dimension is 24 inches or less between the ceiling and bottom of roof sheathing. Roof assembly installation shall comply with R904.

Add Section R1000, Clean Burning Fireplaces, to read:

SECTION R1000 CLEAN BURNING FIREPLACES

R1000.1 Clean Burning Fireplaces. The purpose of this Standard is to regulate fireplaces, woodstoves, or other solid-fuel burning devices to reduce the amount of air pollution caused by particulate matter and carbon monoxide.

The effective date of the regulations and prohibitions set forth in this Standard took effect on December 31, 1998.

R1000.2 Definitions: For purposes of this Standard, the following words and terms shall be defined as follows:

FIREPLACE means a built in place masonry hearth and fire chamber or a factory-built appliance, designed to burn solid fuel or to accommodate gas or electric log insert or similar device, and which is intended for occasional recreational or aesthetic use, not for cooking, heating, or industrial processes.

SOLID FUEL includes but is not limited to wood, coal, or other nongaseous or non-liquid fuels, including those fuels defined by the Maricopa County Air Pollution Control Officer as "inappropriate fuel" to burn in residential wood-burning devices.

WOODSTOVE means a solid-fuel burning heating appliance including a pellet stove, which is either freestanding or designed to be inserted into a fireplace.

R1000.3 Installation Restrictions:

a) On or after the effective date, no person, firm or corporation shall construct or install a fireplace or a woodstove, and the Building Official shall not approve or issue a permit to construct or install a fireplace or a woodstove, unless the fireplace or woodstove complied with one of the following:

1. A fireplace which has a permanently installed gas or electric log insert.

2. A fireplace, woodstove, or other solid-fuel burning appliance which has been certified by the United States Environmental Protection Agency as conforming to 40 Code of Federal Regulations Part 60, Subpart AAA as in effect on July 1, 1990.
3. A fireplace, woodstove or other solid-fuel burning appliance which has been tested and listed by a nationally recognized testing agency to meet performance standards equivalent to those adopted by 40 Code of Federal Regulations part 60, Subpart AAA as in effect on July 1, 1990.
4. A fireplace, woodstove or other solid-fuel burning appliance which has been determined by the Maricopa County Air Pollution Control Officer to meet performance standards equivalent to those adopted by 40 Code of Federal Regulations part 60, Subpart AAA as in effect on July 1, 1990.
5. A fireplace which has a permanently installed woodstove insert which complies with subparagraphs 2, 3, or 4 above.

b) The following installations are not regulated by this Standard and are not prohibited by this Standard:

1. Furnace, boilers, incinerators, kilns, and other similar space heating or industrial process equipment.
2. Cook-stoves, barbecue grills, and similar appliances designed primarily for cooking.
3. Fire pits, barbecue grills, and other outdoor fireplaces.

R1000.5 Fireplace or Woodstove Alterations Prohibited:

- a) On or after the effective date, no person, firm or corporation shall alter or remove a gas or electric log insert or a woodstove insert from a fireplace for purposes of converting the fireplace to directly burn wood or other solid fuel.
- b) On or after the effective date, no person, firm or corporation shall alter a fireplace, woodstove or other solid fuel burning appliance in any manner that would void it's certification or operational compliance with the provisions of this Standard.

R1000.6 Permits Required:

In addition to the provisions and restrictions of this Standard, construction, installation or alternation of all fireplaces, woodstoves and other gas, electric or solid-fuel burning appliances and equipment shall be done in compliance with provisions of the Construction Code and shall be subject to the permits and inspections required by the Construction Code.

Add the following section to Chapter 10 Chimneys and Fireplaces:

R1007 Outdoor Fireplaces

R1007.1 Outdoor Fireplaces

Fireplaces, wood stoves or fire pits (either surface or in-ground) approved to be installed outdoors, whether as a manufactured product or site built, that are capable of burning wood shall meet one of the following requirements:

R1007.1.1 not be installed closer than 8 feet to any property line that abuts another property other than an alley or public way.

R1007.1.2 shall not be installed closer than 10 feet to any property line in a zero lot line subdivision other than an alley or public way.

R1007.2 Chimneys and flues

Any fireplace, wood stove or fire pit, whether manufactured or site built, which requires or has a chimney or flue installed, shall meet all the requirements for termination as per Section **R1003.9 Termination**

R1007.3 Permits Required:

The installation of all exterior fireplaces, woodstoves and fire pits either gas, electric or solid-fuel burning appliances shall be done in compliance with provisions of the Construction Code and shall be subject to the permits and inspections required by the Construction Code. A site plans shall be submitted at the time of permit application indication the location of the appliance and it's proximity to any property line, alley or public way and all structures located on the property.

Revise Section N1101.2 Compliance to read:

N1101.2 Compliance. Compliance with this chapter shall be demonstrated by passing REScheck energy compliance software with a score at least 15% above the IECC.

Revise Section M1507.2 by adding the following:

M1506.2 Recirculation of air. Exhaust air from kitchens, bathrooms and toilet rooms shall not be recirculated within a residence or to another dwelling unit and shall be exhausted directly to the outdoors. Exhaust air from kitchens, bathrooms and toilet rooms shall not discharge into an attic, crawl space or other areas inside the building. M1506.2 Recirculation of air.

Add the following item to Section M2005 (Water Heaters):

"M2005.5 Hot water recirculation pumps. Provide a hot water demand controlled recirculation pump for water heaters located more than 20 feet from furthest fixture served. A manual control or occupant sensor switch shall operate the pump with an automatic temperature sensor shut-off.

Exception: Homes designed with a central manifold (home-run) distribution system."

Chapters 25 through 32 are deleted. Refer to the Mechanical Code as amended and adopted in the Scottsdale Revised Code, Chapter 31, Article VI and/or the Plumbing Code as amended and adopted in the Scottsdale Revised Code, Chapter 31, Article VII for plumbing requirements.

Table E3503.1 is revised to read:

Table E3503.1 Conductor Types and Sizes for 120/240-Volt and 120/208-Volt, 3-Wire, Single-Phase Dwelling Services and Feeders. Conductor Types RH, RHH, RHW, RHW-2, THHN, THHW, THW, THW-2, THWN, THWN-2, XHHW, XHHW-2, SE, USE, USE-2

Copper (AWG or kcmil)	Aluminum or Copper-Clad Aluminum	Service or Feeder Rating (Amperes)		Min. Ground Conductor ^a	
		≤ 30°C	> 30°C	Copper	Alum
4	2	100	----	8 ^b	6 ^c
3	1	110	----	8 ^b	6 ^c
2	1/0	125	100	8 ^b	6 ^c
1	2/0	150	125	6 ^c	4
1/0	3/0	175	150	6 ^c	4
2/0	4/0	200	175	4 ^d	2 ^d
3/0	250	225	200	4 ^d	2 ^d
4/0	300	250	225	2 ^d	1/0 ^d
250	350	300	250	2 ^d	1/0 ^d
350	500	350	300	2 ^d	1/0 ^d
400	600	400	350	1/0 ^d	3/0 ^d

CAUTION - UTILITY COMPANY CONDUCTOR SIZE REQUIREMENTS MAY VARY. CONSULT WITH SERVING UTILITY PRIOR TO INSTALLATION.

- Where protected by a metal raceway, grounding electrode conductors shall be electrically bonded to the metal raceway at both ends.
- No. 8 grounding electrode conductors shall be protected with metal conduit or nonmetallic conduit.
- Where not protected, No. 6 grounding electrode conductors shall closely follow a structural surface for physical protection. The supports shall be spaced not more than 24 inches on center and shall be within 12 inches of any enclosure or termination.
- Where the sole grounding electrode system is a ground rod or pipe as covered in Section E3508.2, the grounding electrode conductor shall not be required to be larger than No. 6 copper or No. 4 aluminum. Where the sole grounding electrode system is the footing steel as covered in Section E3508.1.2, the grounding electrode conductor shall not be required to be larger than No. 4 copper conductor.

Add the following sentence to Section E3601.1 :

Aluminum conductors are not allowed for branch circuits 30 amps or less.

Section E3808.8 is amended to read as follows:

E3808.8 Types of Equipment Grounding Conductors. The equipment grounding conductor run with or enclosing the circuit conductors shall be one or more or a combination of the following:

1. A copper or other corrosion-resistant conductor. This conductor shall be solid or stranded; insulated, covered, or bare; and in the form of a wire or a busbar of any shape.
2. Rigid metal conduit.
3. Intermediate metal conduit.
4. Electrical metallic tubing with an individual equipment grounding conductor.
5. Flexible metal conduit with an individual equipment grounding conductor and where both the conduit and fittings are listed for grounding.
6. Armor of Type AC cable with an individual equipment grounding conductor.
7. Surface metal raceway.
8. Metal-clad cable, where both the cable and fittings are listed for grounding.
9. Liquidtight flexible metal conduit with an individual equipment grounding conductor and terminated with fittings listed for grounding.

Delete Appendix G in its entirety and substitute the following:

Section 3109 Swimming Pool Enclosures, as revised and adopted in the 2006 International Building Code.